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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,540	08/23/2001	Chien-Hsing Fang	ACR0048-US	7821

28970 7590 12/14/2004

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EXAMINER

SMITH, CREIGHTON H

ART UNIT PAPER NUMBER

2645

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p><b>Application No.</b></p> <p>09/934,540</p>	<p><b>Applicant(s)</b></p> <p>FANG, CHIEN-HSING</p>	
	<p><b>Examiner</b></p> <p>Creighton h Smith</p>	<p><b>Art Unit</b></p> <p>2645</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☒ Claim(s) 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                                     |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al in view Katagishi et al or Blakeney, II et al and Todd et al or Weerackody et al.

Hill et al teaches a wireless communications device, col. 2, line 67, that is a laptop PC, col. 3, line 15. Hill et al discloses a diversity antenna system, col. 3, line 14, that can either be provided in the upper member (15) or in the lower member (26) or in each of the upper and lower members, col. 3, lines 60-64. Hill et al discloses that their antenna system is omni-directional, col. 3, line 5. It is disclosed in col. 4, lines 11-20, that Hill's 2 antennas are located on the rear surface of the upper cover member and orthogonal to one another so that when the cover is perpendicular to the base in the open position, one of the antenna will work more efficiently than the other antenna, and when the cover is closed the other antenna will work more efficiently. The antenna system (30) will provide a maximum response to 2 orthogonal polarizations of an RF signal for 2 extreme positions of upper member (15), i.e., the open and closed position, col. 7, lines 54-63. The antenna (1,2) are oriented 90 degrees, i.e., orthogonal to each other providing horizontal polarization with the cover (15) in the open state and providing vertical polarization when the cover is in the closed state. Whether the top is open or closed, the laptop antenna system is omni-directional due to the orthogonal

orientation of the antennas on the top cover, col. 8, lines 33-39. In claim 36, Hill et al disclose that the laptop is operable in a 1st operational state using one of the antenna pair, and operable in a 2nd operational state using the other of the antenna pair.

Hill et al do not disclose a module that encodes and decodes (modulate/demodulate) signals that are transmitted & received through the antennas. However, Katagishi et al and Blakeney, II et al do disclose encode & decoder apparatuses, col. 2, lines 20-35 (Katagishi), that is connected to cell phone's receiver and transmitter. Katagishi's encoder/decoder apparatus decodes signals received thru the antenna and converts them into an input voice signal, and will encode the transmitted voice signal to be sent thru the antenna of the wireless cell phone. Blakeney, II et al also has an encoder (24) that will encode a voice signal and provide that signal to transmitter (26), which in turn provides the signal to antenna (28), col. 8, lines 50-60. Blakeney, II also discloses a decoder (16), such that a received signal from antenna (12) is sent to receiver (14) where it is demodulated and provided to decoder 916), col. 9, lines 24-31. To have provided either Katagishi's or Blakeney's encoder/decoder apparatus in Hill's laptop would have been obvious to a person with ordinary skill in the art because to modulate and demodulate (encode/decode) PC signals, i.e., by a MODEM, is an old and well known way of communicating between PCs, and the skilled artisan would have recognized this by providing either Katagishi's or Blakeney's MODEM into Hill's PC, if it was not already inherent that Hill had one in place already.

Hill also does not disclose a switch that is coupled to the pair of antenna that will switch between the first antenna and the second antenna based on whether the

antennas' operating state is either the 1st or 2nd operating state. However, both Todd et al and Weerackody et al do disclose a switch that will switch between antennas when one channel is bad, Weerackody's col. 1, lines 65-67; col. 4, lines 37-40; claim 1, lines 8-18, and Todd's col. 2, lines 3-15. To have provided either Weerackody's or Todd's switch in Hill's laptop to switch between the 2 antennas as one antenna's reception turned bad would have been obvious to a person having ordinary skill in the art because by switching between antennas, as one antenna's reception is turning bad, will save PC power by turning off the poor antenna and thus saving power supply (battery life). reagarding claim 15, to have placed either Todd's or Weerackody's switch in Hill's hinge is deemed an obvious matter of choice based on space limitations.

Claims 1-12 are allowed.

The prior art fails to show a switch that will cause rotation of the antenna pair after detecting that the operational states have changed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allen et al, Publication #2002/0149705

Any inquiry concerning this communication should be directed to Creighton h Smith at telephone number 308-2488.

03 DEC. '04



Creighton h Smith  
Primary Examiner  
Art Unit 2645